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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/825,557	04/14/2004	Takuya Matsumoto	G013-5268	8853

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EXAMINER

HON, SOW FUN

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 02/02/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/825,557	<b>Applicant(s)</b> MATSUMOTO ET AL.	
	<b>Examiner</b> Sow-Fun Hon	<b>Art Unit</b> 1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 07 November 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments, see remarks section, filed 11/07/05, with respect to the rejection(s) of the claim(s) have been fully considered and are persuasive.

Therefore, the rejection has been withdrawn. However, upon further consideration, new ground(s) of rejection are made in view of the new prior art set forth below.

### ***New Rejections***

#### ***Double Patenting***

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Art Unit: 1772

2. Claims 1-9 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-12 of copending Application No. 10/672,946. Although the conflicting claims are not identical, they are not patentably distinct from each other because conflicting claim 9 recites a method of producing a liquid crystal film wherein the liquid crystal material is developed over an alignment substrate so as to align the liquid crystal material in a liquid crystal orientation state, followed by fixing the orientation by light irradiation and/or heat treatment, and when combined with the liquid crystalline polymeric substance recited by conflicting claims 2-3, provide the liquid crystal film of examined claims 1-2.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

### ***Claim Rejections - 35 USC § 103***

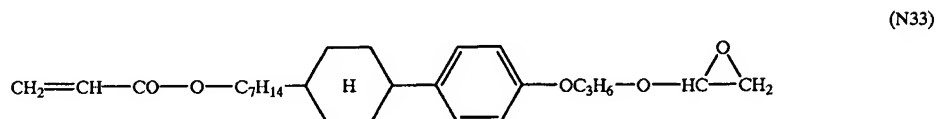
The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

3. Claims 1-2, 5-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawata (US 6,338,808) in view of Sasaki (US 6,015,914).

Regarding claims 1-2, Kawata teaches a liquid crystal film (layer has a thickness in the range of 0.1 to 50 micron (column 35, lines 16-19) obtained by fixing an aligned structure of a liquid crystal material obtained by homopolymerizing the (meth)acrylic portion (thermal polymerization, column 34,

Art Unit: 1772

lines 55-56) of a (meth)acrylic compound represented by formula (N33) shown below:



which corresponds to formula (I) of Applicant as listed on the next page.

$R_1=H$ ,  $I=7$ ,  $L_1$ =single bond,  $M_1=-P_1-L_5-P_3-$ ,  $P_1=1,4$ -cyclohexane,  $L_5$ =single bond,  $P_3=1,4$ -benzene,  $L_2=O$ ,  $m=3$ . Kawata fails to teach an oxetanyl group in place of the epoxy group.

However, Sasaki teaches that oxetanyl groups can be used in place of epoxy groups, depending on the desired characteristics of film formation (higher ultraviolet-curing rate, column 2, lines 4-7, excellent in curability and adhesion, column 9, lines 45-48).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have used an oxetanyl group in place of the epoxy group, in the liquid crystal compound used to form the liquid crystal film of Kawata, in order to obtain the desired film formation and adhesion of the liquid crystal compound, provided by the oxetanyl group, as taught by Sasaki.

The homopolymer of Kawata in view of Sasaki, contains 100 percent by mol. of formula (8) of Applicant.

Regarding claim 5, Kawata teaches that the liquid crystal material contains a photo-cation generator and/or a thermal-cation generator (column 34, lines 55-59).

Art Unit: 1772

Regarding claim 6, Kawata teaches that the liquid crystal film is obtained by developing the liquid crystal over an alignment substrate so as to be aligned (applying the liquid crystal composition onto an orientation layer to form a liquid crystal layer, column 33, lines 65-67), and fixing the liquid crystal in the aligned state by irradiation with light (photo reaction) and/or a heat treatment (thermal reaction, column 34, lines 52-59).

Regarding claim 7, Kawata teaches that the liquid crystal is fixed in an aligned nematic structure (column 41, lines 13-16).

Regarding claims 8-9, Kawata teaches a retardation optical film comprising the liquid crystal (phase retarder, column 1, lines 29-35).

Regarding claim 10, Kawata teaches a liquid crystal display device which is equipped with the optical film (column 1, lines 14-20).

4. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawata in view of Sasaki as applied to claims 1-2, 5-10 above, and further evidenced by Lutjens (US 5,296,528).

Kawata in view of Sasaki has been discussed above, and fails to teach the weight-average molecular weight of the side chain-type polymer liquid crystalline substance.

However, Lutjens teaches that weight-average molecular weights of 10,000 to 200,000 are typical for polycarbonates (column 3, lines 22-27) and 3,000 to 800,000 for vinyl polymers (column 4, lines 24-28), such as the one containing the oxetane side chain-type polymer in formula (I) of Lutjens (column 3, lines 28-45), which overlap the claimed range of 2,000 to 100,000.

Art Unit: 1772

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to have made the side-chain-type polymer liquid crystalline substance of Kawata in view of Sasaki, with a weight-average molecular weight which overlaps the claimed range of 2,000 to 100,000, in order to form a typical polymer, as taught by Lutjens.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number (571)272-1492. The examiner can normally be reached Monday to Friday from 10:00 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (571)272-1498. The fax phone number for the organization where this application or proceeding is assigned is (571)273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

*S. Hon*

Sow-Fun Hon

*01/23/06**Harold Pyon*  
HAROLD PYON  
SUPERVISORY PATENT EXAMINER*1772**1/25/06*